HYDRAULICS AND HYDRAULIC MACHINERY LAB

Course Outcomes:

After the completion of the lab, student can able to

- Determine the discharge of flow through venturimeter and orificemeter, loss of head due to sudden contraction and friction in pipe and verify Bernoulli's equation
- Determine Cd for a small orifice by constant Head method
- Determine discharge of flow using V notch and Rectangular notch
- Determine the force exerted by jet and study efficiency of Pelton wheel, Francis turbine
- Determine the efficiency of Centrifugal and reciprocating pumps

List of Experiments

- 1. Calibration of Venturimeter
- 2. Calibration of Orifice meter
- 3. Determination of Coefficient of discharge for a small orifice by a constant head method.
- 4. Calibration of contracted Rectangular Notch and /or Triangular Notch
- 5. Determination of Coefficient of loss of head in a sudden contraction
- 6. Determination of Coefficient of friction factor.
- 7. Verification of Bernoulli's equation.
- 8. Impact of jet on vanes
- 9. Performance test on Pelton wheel turbine
- 10. Performance test on Francis turbine.
- 11. Efficiency test on centrifugal pump.
- 12. Efficiency test on reciprocating pump.

List of Equipment:

- 1. Venturimeter setup.
- 2. Orifice meter setup.
- 3. Small orifice setup.
- 4. External mouthpiece setup.
- 5. Rectangular and Triangular notch setups.
- 6. Friction factor test setup.
- 7. Bernoulli's theorem setup.
- 8. Impact of jets.
- 9. Hydraulic jump test setup.
- 10. Pelton wheel and Francis turbines.
- 11. Centrifugal pump setup
- 12. Reciprocating pumps set up